

## Algal Collections from Funafuti Atoll

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IN SEPTEMBER, 1951, H.M.S. "Challenger" visited Funafuti Atoll in the Ellice Islands in connection with seismic experiments. Biological materials were collected from the reef and samples were dredged from the floor of the lagoon. No algal material was collected in the latter but some was obtained from the reef stations, the location of which is shown in Figure 1. In the report accompanying the material (Challenger 2320/12/3) it is stated that the seaweed samples are good random ones. Considerable differences in respect to both abundance and proportions of species are evident at the various stations. No algal collections appear to have been made on previous visits, not even during the celebrated visit to put down the bore through the reef in order to determine the depth of coral (Finckh, 1904). Recently an extensive treatment of the algae of Bikini Atoll has been published (Taylor, 1950) and this has proved very helpful in the present study. The list of species from Funafuti is not as extensive as one might have expected but this may be a result of the lack of a trained botanist among the collectors.

I am grateful to Dr. Drouet for checking one or two doubtful species among the Myxophyceae and to Dr. Yale Dawson for

the identification of *Wurdemannia miniata*. The collection has been deposited at the Auckland Institute and Museum, Auckland, New Zealand.

### MYXOPHYCEAE

#### OSCILLATORIACEAE:

*Lyngbya majuscula* (Dill.) Harv. Sta. 1 (lagoon side; seaward side); Sta. 2 (seaward side); Sta. 3 (seaward side).

*Lyngbya confervoides* C. Ag. Sta. 2 (seaward side); Sta. 4 (seaward side); Sta. 5.

*Lyngbya semiplena* (C. Ag.) J. Ag. Sta. 5.

*Oscillatoria nigro-viridis* Thw. Sta. 1 (seaward side).

*Phormidium corium* (Ag.) Gom. Sta. 4 (seaward side).

*Hydrocoleus lyngbyaceus* Kütz. Sta. 4 (seaward side).

*Hydrocoleus coccineus* Gom. Sta. 4.

#### RIVULARIACEAE:

*Calothrix confervicola* Kütz. Sta. 4 (lagoon side).

### CHLOROPHYCEAE

#### ULVACEAE:

*Enteromorpha procera* (Ahl.) f. *minuta* Chap. Sta. 5.

#### SIPHONOCALACEAE:

*Cladophoropsis membranacea* (Ag.) Borg. Sta. 2 (seaward).

*Cladophoropsis membranacea* (Ag.) Borg. var. *repens* Phinney. Sta. 4.

*Cladophoropsis zollingeri* (Kütz.) Borg. Sta. 2 (seaward).

#### BOODLEACEAE:

*Boodlea siamensis* Reinbold. Sta. 1 (lagoon and seaward sides).

*Struvea anastomosans* (Harv.) Picc. et Grun. ex Piccone. Sta. 2 (seaward).

#### ANADYOMENACEAE:

*Microdictyon setchellianum* Howe. Sta. 4; Sta. 5.

*Microdictyon japonicum* Setchell. Sta. 4 (seaward). The plants were young but appeared to belong to this species.

#### VALONIACEAE:

*Dictyosphaeria cavernosa* (Forsk.) Borg. Sta. 2 (seaward); Sta. 3; Sta. 4 (lagoon and seaward sides); Sta. 5.

*Dictyosphaeria versluysii* Weber v. Bosse. Sta. 5. One plant which agrees with the description in Egerod (1952) is present.

*Valonia ventricosa* J. Ag. Sta. 1 (lagoon).

*Valonia aegagropila* C. Ag. Sta. 2 (seaward); Sta. 4 (seaward); Sta. 5.

#### DASYCLADACEAE:

*Neomeris van-bossea* Howe. Sta. 4.

*Acetabularia parvula* Solms-Laubach. Sta. 1 (seaward).

#### CODIACEAE:

*Avrainvillea pacifica* Gepp. Sta. 5.

*Halimeda opuntia* (L.) Lamx. f. *triloba* Barton. Sta. 2 (lagoon); Sta. 3.

*Halimeda opuntia* (L.) Lamx. f. *elongata* (Barton) Barton. Dredged in 25 fathoms, 1.5 miles south of Fualifeke.

*Halimeda tuna* Lamx. var. *platydisca* (Dec.) Barton. Sta. 2 (lagoon side).

*Halimeda incrassata* (Ell. et Sol.) Lamx. Sta. 4 (lagoon side).

*Halimeda gracilis* Harv. f. *lata* Taylor. Dredged at 25 fathoms, 1.5 miles south of Fualifeke.

#### CAULERPACEAE:

*Caulerpa urvilliana* Mont. v. *typica* Weber-v.-Bosse. Sta. 5.

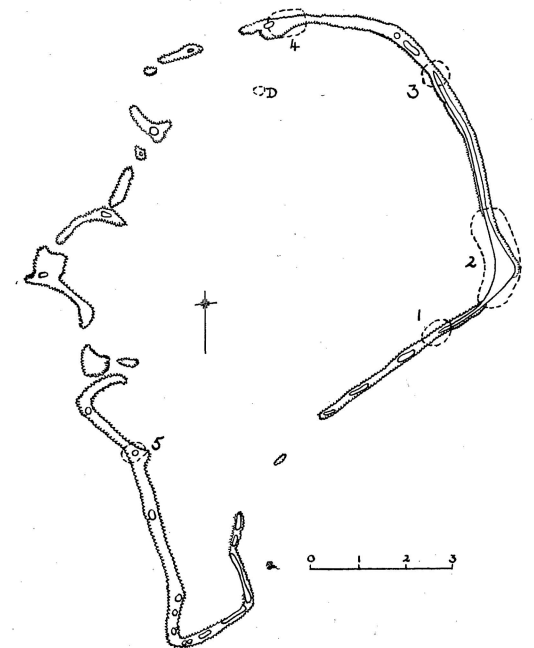


FIG. 1. Map of Funafuti Atoll showing the stations from which algal samples were collected and the place (D) where the dredged sample was obtained. Scale in nautical miles.

*Caulerpa racemosa* (Forsk.) J. Ag. v. *uvifera* (Turn.) Weber-v.-Bosse. Sta. 3.

*Caulerpa racemosa* (Forsk.) J. Ag. v. *uvifera* (Turn.) Weber-v.-Bosse f. *planuscula* Svedel. Sta. 2 (lagoon side).

*Caulerpa cupressoides* (Vahl.) Ag. v. *typica* Weber-v.-Bosse. Sta. 3.

### PHAEOPHYCEAE

#### ECTOCARPACEAE:

*Ectocarpus indicus* Sonder. Sta. 1 (seaward); Sta. 5.

#### DICTYOTACEAE:

*Pocockiella variegata* (Lamx.) Papenfuss. Sta. 1 (lagoon and seaward); Sta. 5.

*Padina commersonii* Bory. Sta. 2 (lagoon side). Probably this species though the material was sterile.

*Dictyota dichotoma* Lamx. Sta. 2 (seaward side).

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*Dictyota dichotoma* Lamx. forma. The plant appeared to belong here but was broad at the apex, narrowing somewhat to the base. Dredged at 25 fathoms, 1.5 miles south of Fualifeke (D in Fig. 1).

*Dictyota bartayresiana* Lamx. Sta. 2 (lagoon side). The plant agreed generally with this species.

### RHODOPHYCEAE

#### CHAETANGIACEAE:

*Galaxaura filamentosa* Chou. Sta. 2 (seaward side); Sta. 3.

#### GELIDIACEAE:

*Wurde mannia miniata* (Lamx. & DC) Feldm. & Hamel. Sta. 1 (seaward); Sta. 2 (seaward).

#### CORALLINACEAE:

*Jania rubens* Lamx. Sta. 1 (seaward); Sta. 2 (seaward); Sta. 4 (seaward); Sta. 5.

#### MELOBESACEAE:

*Fosliella farinosa* (Lamx.) Howe. Sta. 2 (on *Struvea anastomosans*).

#### GRACILARIACEAE:

*Gracilaria coronopifolia* J. Ag. Sta. 1 (seaward side); Sta. 2 (seaward side).

#### RHODOMELACEAE:

*Laurencia intricata* Lamx. Sta. 1 (seaward side); Sta. 2 (seaward).

*Herposiphonia tenella* (C. Ag.) Naeg. Sta. 1

(lagoon and seaward sides); Sta. 2 (seaward); Sta. 5.

*Herposiphonia secunda* (C. Ag.) Ambronn. Sta. 2. (seaward).

*Roschera calodictyon* (Harv.) Weber-v.-Bosse. Sta. 2 (seaward).

#### CERAMIACEAE:

*Centroceras clavulatum* (C. Ag.) Mont. Sta. 1 (seaward side); Sta. 5.

*Ceramium personatum* Setch. & Gard. Sta. 4 (lagoon side). The plants appeared to belong to this species.

*Ceramium* sp. Sta. 1 (seaward).

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